**US Army Corps
of Engineers** ®

# Memphis District

# Year 2000 Management Plan

# 10 August 1998

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# EXECUTIVE SUMMARY:

The Year 2000 presents a number of challenges to the Memphis District.  Failure to recognize and correct Y2K problems within our information systems and infrastructure could compromise the ability to execute our mission in the new millennia. To address this threat, a District Year 2000 Team has been formed, and charged with overall responsibility for planning, inventorying, assessing risk, prioritizing actions and implementing appropriate corrective measures.

The goal of this team is to assure actions and plans are developed to preclude disruption of mission essential services by and within the Memphis District.  This Y2K Management Plan is the Memphis District's blueprint for action to achieve this goal in a comprehensive and timely manner.  It will be executed in five phases:

- Phase 1 - Preparation includes District wide awareness, Y2K team formation, and Management Plan development - ends with the publication of this plan

- Phase 2 - Inventory of District assets with potential Y2K problems subdivided into three categories - Completes by 15 Oct 1998.

- Phase 3 - Prioritization and risk assessment will assure limited resources are expended on those systems with the most critical impact - Completes by 15 Nov 1998.

- Phase 4 - Renovation involves implementation of initial corrective actions - Completes by 31 Dec 1998.

- Phase 5 - Validation includes retesting after patches and renovation to test interoperability of systems - Completes by 31 Mar 1999.

This Management Plan is hereby approved for publication and immediate implementation.


10 August 1998                    DANIEL W. KRUEGER
                                  Colonel, Corps of Engineers
                                  District Engineer

# Memphis District
# Year 2000 Management Plan

## 1. BACKGROUND.

a.  The implications of the Year 2000 challenge are serious when considering society's dependence on IT and its pervasiveness. In order to successfully transition to the new millennium, the Year 2000 challenge must be addressed responsibly and responsively by all of the affected stakeholders.

b.  IT systems often identify calendar dates with an abbreviated calendar date using only the last two digits of the year.  If not converted or modified, the majority of computer systems will not be able to correctly recognize dates or accurately calculate date data after 1999.  The scope of this problem also includes microcode "embedded" in tens of thousands of "real time" systems and "intelligent" products found in every walk of life.  The list of potential problems includes any digital device in the Corps Real Property inventory,  dredge instrumentation, office automation devices, Global Positioning Systems (GPS), computers and embedded controllers used for water control, power generation management and control, emergency operations management and response, and "intelligent" building systems - elevators, HVAC, electronic security systems (ESS), utility monitoring and control systems (UMCS) and traffic management systems.

c. The implications for Memphis District operations and projects are enormous. Although the impacts can be categorized into four broad areas, we will not know the full implications until we identify and test each application in its environment:

(1)  Corps operating projects (examples: Huxtable Pumping Plant operations that regulate flood control for the St. Francis Basin in eastern Arkansas).

(2)  Corps facilities and plant (examples: dredge instrumentation, office elevators and security systems, office equipment, including Corps owned and contracted equipment).

(3)  Corps construction projects (examples: contract specifications for HVAC systems being installed in new civil works projects).

(4)  Corps information links with customers and other federal agencies.

d.  Actions of higher headquarters:

(1) The Chief of Engineers issued guidance on 20 April 1998, Designating the USACE CIO as the Program Manager for Corps-wide Y2K compliance.  The DCG is establishing a HQ Y2K Ad Hoc Committee. The HQ PARC is researching contract language for non-IT contracts that include automated systems (HVAC, etc).  In addition, all Commanders will be required to ultimately certify that their activities are fully Y2K compliant.  Division Commanders will submit monthly Y2K progress reports.

(2) The Director of civil works will be USACE Representative on the President's Council for Y2K.

(3)  Headquarters proponents for USACE-wide Automated Information Systems (AIS) will insure Y2K compliance for those systems.

e. Source of Funds: This plan assumes funding for initial inventory/risk assessment is not available other than as a component of O&M and operating budget dollars, as appropriate.  There will be no Y2K specific additional funding for FY 98 or FY 99; it is possible that all Y2K costs may ultimately have to be borne through existing resources or internal Corps reprogramming.

**2.    MISSION.**    Memphis District, in coordination with Mississippi Valley Division, HQUSACE, sister districts, and regional federal partners takes corrective action on all equipment and instrumentation potentially affected by the Y2K phenomenon NLT 9 September 1999 to preclude negative impacts on Corps projects, facilities, and customers.

**3.  PLAN IMPLEMENTATION.**

a. <u>Plan Development</u>.  Implementation will take place under the guidance and oversight of the Memphis District Information Resources Management Steering Committee (IRMSC).  The IRMSC recommended the Commander appoint a multi-functional District Y2K Team. This team was chartered by the IRMSC to develop and implement the District Y2K Management Plan, and supervise its execution district wide.

b. <u>District Y2K Team:</u> The Deputy District Commander who functions as the District Y2K Program Manager chairs the team. The District Y2K Team consists of the following members appointed by the District Commander by memo dated 20 July 1998:

MAJ Josef R. Hallatschek, Deputy Commander, Y2K Program Manager
Fred Hoffman, IM
Ken Williams, CO
Rodger Funderburk, PPPMD
Fred Sawyers, ED
Rich Kaiser, LO
Charles Briggs, OC
David Turner, RM
Doug Young, RE
Carol Seibert, CT
Patty Long, HR
NFFE Local 259 Representative

4. **SCHEDULE.** This plan consists of five phases of operation. Transition from one phase to the next is left to the discretion of the Deputy District Commander, subject to the criteria identified below. Given the potential scarcity of resources, the Y2K Team will submit an estimate of the total scope of the problem within Memphis District to the IRMSC, who will recommend priorities to the Commander before actually moving to renovate or correct noted problem areas. This is to ensure whatever resources are available are dedicated to those areas with the greatest impact. Milestones are presented in Appendix A.

    a. **Phase 1- Preparation**.

       (1) Phase I begins immediately and will be completed no later than 10 Aug 1998 with the establishment of a District Y2K team and publication of a District Y2K Management Plan.

       (2) The Memphis District Information Resource Management Steering Committee (IRMSC) assumes responsibility for strategic direction and oversight of a District Y2K Team. The Y2K Team has been charged to plan, inventory, assess, and execute solutions to Y2K issues.

(3) Phase 1 also includes educating the teams and key individuals. Toward this effort, the Memphis District Y2K Team kickoff meeting on 22 July 98 included a Y2K awareness presentation by IRMSC representatives. Continuing awareness and education will be an ongoing effort throughout the Y2K issue resolution period.

(4) The District Y2K Plan (this plan) will be staffed, finalized and Published by 10 August 1998.

(5) The Y2K Team will meet on an as needed basis at the call of the Chairman. Minutes of all meetings will be recorded by IM and distributed with copies forwarded to the MVD Y2K Program Manager, York Yarbro, CEMVD-IM-I.

b. **Phase 2 - Inventory.**

(1) Phase 2 begins upon the completion of Phase 1 (publication of this plan). This phase consists of a comprehensive inventory of all systems and automated equipment owned, operated, or contracted by the Memphis District, and its projects. This includes operating projects, facilities and plant, ongoing construction projects, and communications links with other agencies. Inventories will address both discrete elements and linkages between elements within systems. During this phase, MVM will coordinate closely with other offices for lessons learned. Specific inventory strategies by equipment type are presented in Appendix B.

(2) The Memphis District inventory and its status will be reported on the first Tuesday of each month by the Y2K Team through an online survey instrument located on the HQUSACE web site at http://www.usace.army.mil/inet/functions/im/ceimp/y2ksurv.html. (Also, the Information Technology Investment Portfolio System (ITIPS) will reflect the updated Y2K status of Automated Information Systems (AIS's) entered in that system, as appropriate.) An item is reported compliant only when it has been tested, any required patches/replacements have been made and it is retested and has passed. Published vendor and original equipment manufacturer (OEM) compliance information when obtained through public sources and provided for specific configuration and or serial number range may be utilized to document compliance. In such cases, actual testing will

be attempted, and subsequent contact with OEM required if systems do not appear to pass validation. It is not to be assumed that an item is compliant based on when it was purchased.  The monthly report will include the following information.

Device type
Number of devices/units
% Y2K compliant
% Non compliant
% Not tested for compliance
% To be replaced
Unprogrammed cost to repair/replace
Number of contracts (total open design and construction for
        District).
What percent has been reviewed for Year 2000 language?

(3) The devices for which this information is to be reported include, the following general categories and illustrative examples:

**Information Systems (IS)/Information Technology (IT)**
Personal computers  (Use TF2000 by Boxware, INC)
Servers (including LAN, Web, Application, Database, Print)
Commercial Off The Shelf (COTS) Software (including
        office automation, CADD, operating systems, etc)
        Give the total number of copies of software
        packages (counting discrete version numbers as
        separate versions)
Routers, brouters, gateways, hubs (only devices
        Internal to the Memphis District)
Office Equipment (Faxes, time clocks, mail meters,
        word processors, date stamps).  Include devices
        in Corps owned buildings.  Include devices the
        Corps owns, even if the building is leased.
Automated Information Systems (AISs)

**Intelligent Building controllers** (Elevators, heating-ventilation-air conditioning (HVAC), electronic security systems (ESS), utility monitoring and control systems (UMCS) and traffic management systems)

**Mission Infrastructure** (Include devices owned by the Corps. Do not include devices in buildings built by the Corps and turned over to a customer.
Communications Devices (PBXs, INMARSAT, radios, microwave, digital/cellular phones, pagers, relay equipment)
Boats/Dredges Instrumentation/Controllers
Water Control Instrumentation/Controllers
Pump Station/Instrumentation Controllers
Surveying Equipment
GIS Devices
Digital Photography/Video Equipment
Locks/Dams/Reservoir Instrumentation Controllers
GPS and DGPS receivers

(4) Cost estimates will be developed along with the inventory; a preliminary cost projection is to be submitted by 14 Aug 98 in order to identify projected costs to HQ in time to affect the FY 99 operating budget cycle. Costs include only unprogrammed costs directly related to the Year 2000. Costs do not include system enhancements. Included are any costs expended testing items (i.e., tools, contractors) but labor costs are not included. For example, if plans already exist to replace a PC as part of the normal upgrade cycle, its cost doesn't count as a Y2K cost. If the cost can be met within existing budget, it will not be reported.

(5) Phase 2 is to be completed no later than 15 October 1998 although monthly reports are due as stated in para 3b(2)b above.

(6) A variety of methods will be used to accomplish Phase 2 to include:

SMS & TF2000, IM software package to inventory all Network devices.
Property Book Inventory, LO-P
Physical inventory

Equipment documentation
Manufacturer contacts
Personal knowledge
Lessons learned from other offices
Year 2000 literature (books, articles, websites)

(7) Appendix B contains the methodology for inventorying and
Testing each applicable District resource for Y2K compliance.

### c.  **Phase 3 – Prioritization**.

a)  Phase 3 may begin at the discretion of the Y2K Program Manager, and may occur in conjunction with phase 2.  The essence of phase 3 is a risk assessment of Y2K vulnerabilities identified in phase 2, with emphasis on linkages within systems and impacts on public safety, customer service, and internal operations.  This phase will prioritize Y2K corrective actions, based on risk and importance.  The Y2K Team will develop and apply risk criteria for the entire inventory, and submit it to the IRMSC, who will recommend resource expenditures to correct systems that have a critical mission impact.

b) Each Y2K associated task will be assigned a timeline for completion. Major areas of concern will be consolidated and categorized by risk assessment (i.e. flood control; navigation operations and maintenance; C2; etc).  Alternatives and contingency plans will also be developed. Phase 3 is to be completed no later than 15 November 1998.

### d.  **Phase 4 – Renovation.**

a) Phase 4 may begin at the discretion of the Y2K Program Manager, provided that at least 70% of the inventory is complete and the IRMSC believes all high risk / high impact Y2K vulnerabilities have been identified.

b) Phase 4 initiates the prioritized Y2K corrective actions.  It states contingency plans and monitors progress.   Initial system corrective actions are to be completed no later than 31 December 1998 in order to comply with DoD guidelines.

e. <u>**Phase 5 - Validation.**</u>

Phase 5 may begin at any time once Phase 4 - Renovation is underway. As system patches are installed, or new systems deployed they must be retested to verify full compliance and interoperability. Final system corrective actions are to be completed no later than 31 March 1999 to comply with the OMB recommended timeline. This will provide a six-month cushion to complete system corrections that generate unexpected problems prior to the original suspense of 9 September 1999.

# 5. FUNCTIONAL ACTIVITY CERTIFICATION

The Division Chief or Independent Office Chief of each staff level functional organization will sign a certification indicating a comprehensive inventory of systems under his/her direct control has been conducted, and all Y2K impacted systems have been tested and certified as Y2K compliant. Those that do not comply are not being used in a manner that will impact other District business processes or mission critical functions.

# APPENDIX A
## Milestone Dates

20 Jul 98    Designation of District Y2K Team

22 Jul 98    District Y2K Team Kickoff meeting

27 Jul 98    District Y2K Team comments due on District Plan strawman

5 Aug 98    Staff Comments due on District Plan strawman

**10 Aug 98    District Y2K plan finalized and published -  End Phase 1**

14 Aug 98    District Y2K Team meeting - preliminary inventory completed

4 Aug 98    Year 2000 Monthly Readiness Data Call

8 Sep 98    Year 2000 Monthly Readiness Data Call

6 Oct 98    Year 2000 Monthly Readiness Data Call

**15 Oct 98    District Y2K inventory completed - End Phase 2**

3 Nov 98    Year 2000 Monthly Readiness Data Call

**15 Nov 98    District Y2K risk assess./prioritization completed- End Phase 3**

8 Dec 98    Year 2000 Monthly Readiness Data Call

**31 Dec 98    Initial corrective actions / renovation complete - End Phase 4**

5 Jan 99    Year 2000 Monthly Readiness Data Call

2 Feb 99    Year 2000 Monthly Readiness Data Call

2 Mar 99    Year 2000 Monthly Readiness Data Call

**31 Mar 99    Initial retesting / interoperability / validation complete - End Phase 5**

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## Milestone Dates

6 Apr 99    Year 2000 Monthly Readiness Data Call

4 May 99    Year 2000 Monthly Readiness Data Call

1 Jun 99    Year 2000 Monthly Readiness Data Call

6 Jul 99    Year 2000 Monthly Readiness Data Call

3 Aug 99    Year 2000 Monthly Readiness Data Call

7 Sep 99    Year 2000 Monthly Readiness Data Call

9 Sep 99    Final District Y2K corrective actions in place - Full Compliance

5 Oct 99    Year 2000 Monthly Readiness Data Call

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# APPENDIX B
# Inventory and Testing Strategy

| System / Component | Inventory Strategy | Action for Inventory | Testing Strategy | Action for Testing |
|---|---|---|---|---|
| **IS / IT** | | | | |
| Personal Computers: | | | | |
|     Network PCs | SMS, OpenView | IM, Users | TF2000 OEM Data | Users, IM |
|     Standalone PCs | Property Book Physical Inv. | IM, Users | TF2000 & OEM Data | Users, IM |
|     Notebook PCs | Property Book Physical Inv. | IM, Users | TF2000 & OEM Data | Users, IM |
| Servers: | | | | |
|     LAN Servers | OpenView | IM | OEM Data | IM |
|     CADD Servers | OpenView | IM, Users | OEM Data | IM |
|     WCDS Server | OpenView | IM, Users | OEM Data | IM |
|     CPAC Server | OpenView | IM, Users | OEM Data | IM |
|     RAMS Server | OpenView | IM, Users | OEM Data | IM |
|     Commo Server | OpenView | IM | OEM Data | IM |
|     Web Servers | OpenView | IM | OEM Data | IM |
|     E-Mail Servers | OpenView | IM | OEM Data | IM |
| COTS Software: | SMS, Physical Inventory | IM, Users | TF2000, OME Data | IM |
| Routers/Brouters: | | | | |
|     FOB -LAN (Bay) | OpenView | IM | OEM Data | IM |
|     EEY - Admin Bld | OpenView | IM | OEM Data | IM |
|     Wynne Area Office | OpenView | IM, Users | OEM Data | IM |
|     C'ville Area Office | OpenView | IM, Users | OEM Data | IM |
|     Greenville EY | OpenView | IM, Users | OEM Data | IM |
|     CEAP Network | OpenView | IM | OEM Data | IM |
| Gateways: | | | | |
|     Retix MTA (FOB) | OpenView | IM | TF2000 | IM |
|     SMTP | OpenView | IM | TF2000 | IM |
| Hubs: | | | | |
|     FOB - 7th Floor | OpenView | IM | OEM Data | IM |
|     FOB - 6th Floor | OpenView | IM | OEM Data | IM |
|     FOB - 5th Floor | OpenView | IM | OEM Data | IM |
|     FOB - 4th Floor | OpenView | IM | OEM Data | IM |
|     FOB - 1st Floor | OpenView | IM | OEM Data | IM |

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# APPENDIX B
## Inventory and Testing Strategy

| System / Component | Inventory Strategy | Action for Inventory | Testing Strategy | Action for Testing |
|---|---|---|---|---|
| **IS / IT** | | | | |
| Hubs:  continued | | | | |
| EEY | OpenView | IM & CO | OEM Data | IM |
| GEY | OpenView | IM & CO | OEM Data | IM |
| WAO | OpenView | IM & CO | OEM Data | IM |
| CAO | OpenView | IM & CO | OEM Data | IM |
| M/V Mississippi | OpenView | IM & CO | OEM Data | IM |
| Dredge Hurley | OpenView | IM & CO | OEM Data | IM |
| BPP #9 | OpenView | IM & CO | OEM Data | IM |
| BPP#11 | OpenView | IM &CO | OEM Data | IM |
| Huxtable PS | OpenView | IM & CO | OEM Data | IM |
| Graham Burke PS | OpenView | IM & CO | OEM Data | IM |
| | | | | |
| Office Equipment: | | | | |
| FAX machines | Prop. Book & Inventory | IM-R, Users | Manual Date Reset | IM-R, Users |
| Copiers | Prop. Book & Inventory | IM-S, Users | Manual Date Reset - OEM | IM-S, Users |
| Time clock/stamp | Prop. Book & Inventory | Users | Manual Date Reset | Users |
| Postage Meters | Prop. Book & Inventory | IM-S, Users | Manual Date Reset | IM-S, Users |
| Automated Information Systems (AIS) | AISIS | Functional Proponent | TF2000 Scan | Functional Proponent |
| | | | | |
| **INTELLIGENT BUILDING** | | | | |
| Environmental Controllers | | | | |
| Federal Bldg Mem | Physical Insp. | LO, GSA | Man. Reset | GSA |
| EEY | Physical Insp. | LO, CO User | Man. Reset | CO User |
| GEY | Physical Insp. | LO, CO User | Man. Reset | CO User |
| Wynne Area Office | Physical Insp. | Bldg Owner | Man. Reset | Owner, CO |
| C'Ville Area Office | Physical Insp. | Bldg Owner | Man. Reset | Owner, CO |
| Huxtable P.S. | Physical Insp. | LO, CO User | Man. Reset | CO User |
| Graham Burke P.S | Physical Insp. | LO, CO User | Man. Reset | CO User |
| D.D. 17 P.S. | Physical Insp. | LO, CO User | Man. Reset | CO User |

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|---|---|---|---|---|
| **MISSION INFRASTRUCTURE** | | | | |
| Communications Devices | | | | |
| PABX - M/V Miss | Physical Inv. | IM-T, CO | OEM Data | IM-T |
| PABX - GEY | Physical Inv. | IM-T, CO | OEM Data | IM-T |
| PABX - EEY | Physical Inv. | IM-T, CO | OEM Data | IM-T |
| PABX - Huxtable | Physical Inv. | IM-T, CO | OEM Data | IM-T |
| PABX - Wynne AO | Physical Inv. | IM-T, CO | OEM Data | IM-T |
| PABX - C'Ville AO | Physical Inv. | IM-T, CO | OEM Data | IM-T |
| PABX - Fed Bldg | Physical Inv. | IM-T, GSA | OEM Data | IM-T |
| Satellite Systems | Physical Inv. | IM-T, CO | Man. Reset | IM-T |
| Cellular Phones | Prop. Book | IM-T, Users | OEM Data | IM-T, Users |
| Pagers | Prop. Book | IM-T, Users | Man. Reset | IM-T, Users |
| | | | | |
| Boats/Dredges Instrumentation Controllers | Physical Inspection | CO Users | OEM Data, Man.Reset | CO Users |
| | | | | |
| Surveying Equipment | Property Book | ED-G Users | OEM Data, Man. Reset | ED-G Users |
| | | | | |
| Water Control Data Systems | Property Book, Physical Insp. | ED-H Users | OEM Data, Manual Resets | ED-H Users |
| | | | | |
| GIS Devices | Property Book | ED-G Users CO Users | OEM Data Man Reset | ED-G Users CO Users |
| | | | | |
| GPS Devices | Property Book | ED-G Users CO Users | OEM Data Man Reset | ED-G Users CO Users |
| | | | | |
| Digital Photo/Video Equip | Property Book | IM-S, Users | Manual Reset | IM-S, Users |
| | | | | |
| Pump Station Controllers | Phys. Inv. | CO Users | OEM Data | CO Users |

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| System / Component | Inventory Strategy | Action for Inventory | Testing Strategy | Action for Testing |
|---|---|---|---|---|
| | | | | |
| **CONTRACTS** | | | | |
| Open Design and Construction Contr. | File Review | CT | Y2K Language Search | CT |
| Report % Reviewed | File Review | CT | Compute % | CT |
| | | | | |
| | | | | |
| | | | | |